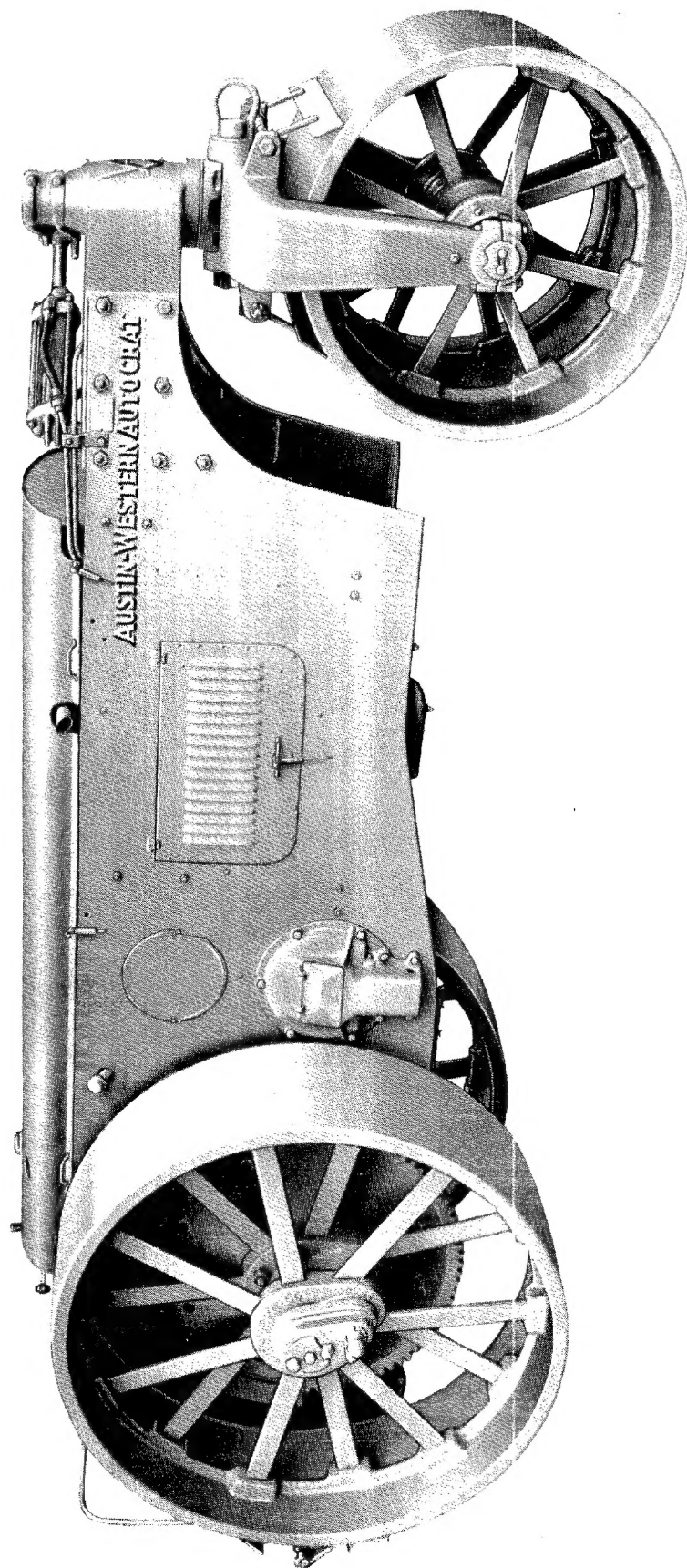
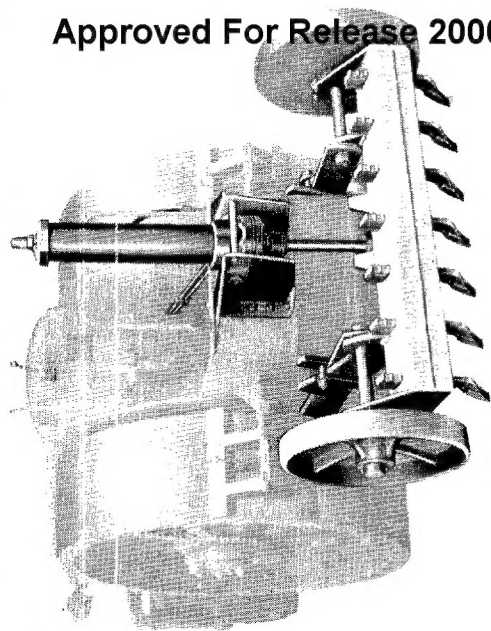


AUSTIN-WESTERN

ROAD ROLLERS

Approved For Release 2000/09/01 : CIA-RDP83-00423R001900250001-3

The Autocrat
when equipped
with hydraulic
scarifier.



Approved For Release 2000/09/01 : CIA-RDP83-00423R001900250001-3



	10-TON	12-TON
Wheelbase.....	11'-6 $\frac{3}{8}$ "	11'-6 $\frac{3}{8}$ "
Overall length.....	18'-1 $\frac{3}{8}$ "	18'-1 $\frac{3}{8}$ "
Overall length.....		
with scarifier.....	19'-10 $\frac{3}{8}$ "	19'-10 $\frac{3}{8}$ "
Overall width.....	7'-1 $\frac{1}{8}$ "	7'-1 $\frac{1}{8}$ "
Rolling width.....		
40" compression rolls.....	6'-4"	6'-4"
22" compression rolls.....	6'-8"	6'-8"
24" compression rolls.....	7'-0"	7'-0"
Overall height.....		
standard roller.....	6'-5"	6'-5"
with sprinkler tank.....		
(75 gal.).....	6'-5"	6'-5"
with sprinkler tank.....		
(100 gal.).....	6'-7 $\frac{1}{4}$ "	6'-7 $\frac{1}{4}$ "
with canopy.....	8'-8 $\frac{1}{4}$ "	8'-8 $\frac{1}{4}$ "
Ground clearance.....		
under side plates.....	17 $\frac{3}{8}$ "	17 $\frac{3}{8}$ "
Turning radius.....	18'-0"	18'-0"

First	1.1
Second	3.0
Third	4.9

Thickness of side plates	1/2"
Depth of side plates	3' 11 3/4"
Front saddle casting	Cast iron
Width of frame outside side plates.....	2'-7"
Construction	Box; welded

*** (Faces Not Machine Finished) -----**

Diameter	43"
Width of each section	22 1/2"
Combined roll width	45"

Construction (each section).....Cast iron rim
and hub cast integral with rolled steel spokes

**Rolls with machine finished face
can be furnished.*

(High Grade Carbon Steel)---
Type Non-rotating
Diameter 3 1/4"
Bearings (2 for each roll section).....(4) Tapered roller
lubrication High pressure fittings

(With Spring Tension)—

Number 2

Type Oscillating
Material Cast Steel

Material	Steel
Diameter at lower bushing.....	4 1/4"
Bushings	2) Bronze
Combined length bushings	12"
Pivot pin diameter	3"
Lubrication	High pressure fittings

Controls	Steering and scarifier
Pump type	Vane
capacity	5.3 G.P.M.

* (Faces Not Machine Finished)—		
Diameter	10 Ton	68"
	12-Ton	68 1/2"
Width each roll	standard	20"
	special	22" or 24"
Distance between rolls		36"
Overlap of front rolls (each side)		4 1/2"
Construction (each section)		Cast iron rim and hub cast integral with rolled steel spokes
*Rolls with machine finished face can be furnished.		

(High Carbon Steel)

Diameter at bearings	4 1/2"
Bearings	(2) Bronze
Combined length of bearings	18 3/4"
Lubrication	High pressure fittings

(With Spring Tension)—
Number (each roll)

Master clutch	type... Single disc; spring loaded	size.....14"
Reversing clutches (2)	type... Twin disc; toggle action	size.....11"

Type Sliding gear
Number speeds forward and reverse 3
Bearings Ball and tapered roller, except
idler gear and clutch hubs
which are bronze bushed

type.....	Spiral bevel and spur
material....	Alloy steel; heat treated;
	cut teeth
Lubrication	Oil splash

Type 4 pinion
Differential locking device.....Built into compression rolls (pin thru axle hub and wheel)
Platform controlled lock.....Special order only

	<u>GASOLINE</u>	<u>DIESEL (OPTIONAL)</u>
Make.....	Buda	I. H. C.
Model.....	K-428	UD-9A UD-14
No. cylinders.....	6	4
Bore and stroke.....	4 3/8"x4 3/4"	4 1/4"x5 5/8"
Piston displacement	428 cu. in.	460.7 cu. in.
II. P. rating, NACC	45.9	36.1
Governed speed (variable).....	1250 R.P.M.	1250 R.P.M.
II. P. at governed speed.....	66.5	64.5
Ignition.....	Distributor	Compression
Fuel tank capacity.....	34 1/2 gallons	34 1/2 gallons
Cooling system capacity.....	8 1/2 gallons	11 gallons
Air cleaner.....	Oil bath	Oil bath
Oil filter.....	Yes	Yes
Fuel filter.....	Yes	Yes
Electric starter and generator.....	Yes	Yes
Battery Amp. hrs. (@ 20 hr. rate).....	110 amp. hrs.	115 amp. hrs.

Number.....2
Type.....Heavy duty spur gears; cut teeth
Jack shaft diameter (at outer bearings).....3 1/4"
Jack shaft material.....Alloy steel; heat treated;
hardened and ground
Jack shaft bearings.....Tapered roller, 2 at outer
end and 1 at inner end of each shaft

Type Mechanical contracting
Location Transmission countershaft
Control Hand lever with ratchet lock

SCARIFIER**	
Weight	1710 lbs.
Overall width	6' 7"
Width of swath	56"
Number of teeth	7
Teeth size	1 1/8"
Material	Hardened steel
Road wheel diameter	28"
..... type	Eccentric hub; 1 1/2"
.....	vertical adjustment
Control (raising and lowering)	Hydraulic
Ground clearance raised (maximum)	10 1/2"
Ground penetration (maximum)	10"
**Note: Rim picks are regularly furnished when roller is equipped with scarifier.	

(Standard with scarifier only) —————

Number holes each roll rim	28;
2 staggered rows	
Number of picks regularly furnished.....	28 total
Projection	3"
Shape	Round; sharp point
Plugs for holes in roll rims.....	Flush with surface; all holes plugged

When desired, the front roll and rear rolls may be machine finished.

TypeWorm and lever
ControlHand wheel at operator's station
*Note: Hand steer can be furnished in
addition to Hydraulic Steer.

.....Platform controlled

Type Gravity to all rolls
Capacity of water tank
 regular 75 gallons
 optional 100 gallons
Mats Cocoa; all rolls

MaterialTop, sheet steel;
 uprights, steel angles
Top size4'-3"x5' 0"
Head room6' 3"

(4) 10-oz. waterproof duck; celluloid windows (front and rear curtains only)

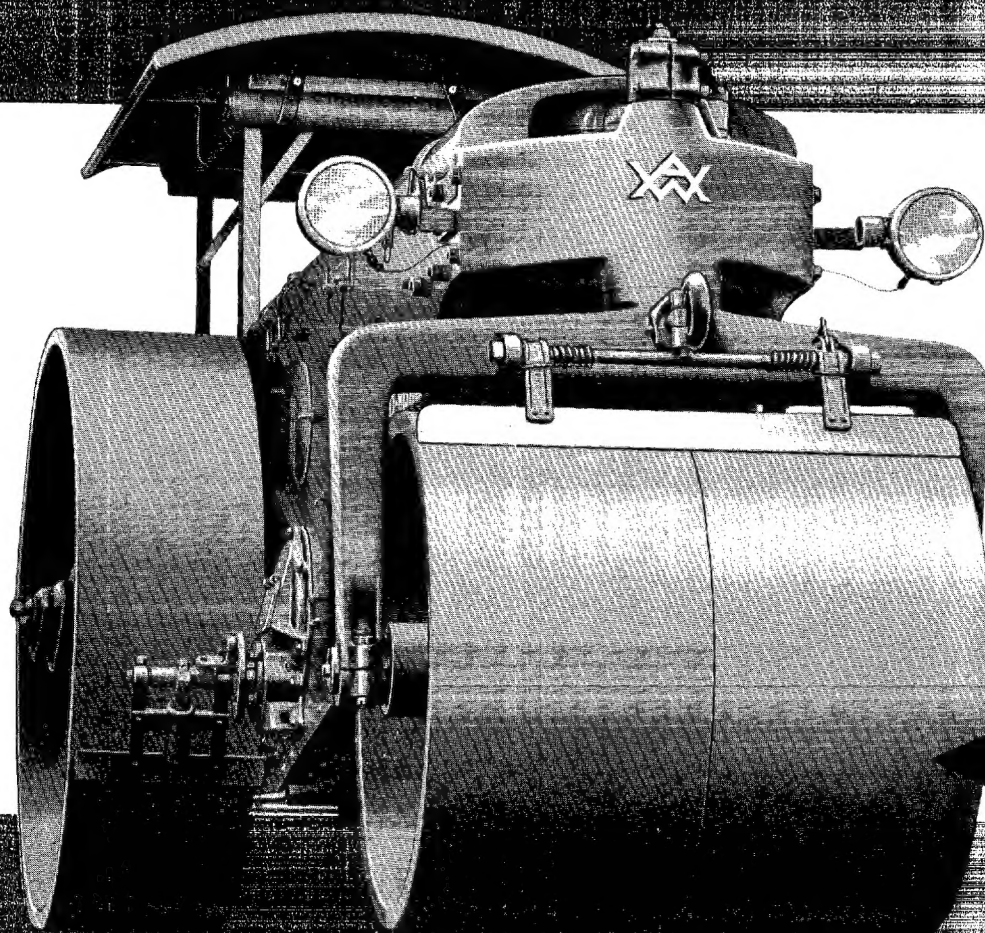
2 white headlights and 1 red tail light.

Total weight, lbs.
 Weight on front roll, lbs.
 Front roll lineal inch, compression, lbs.
 Weight on rear rolls, lbs.
 Rear roll lineal inch compression
 (20" wheels), lbs.

20,765	24,275
7,560	8,780
168	195
13,205	15,495
330	387

21,275	24,785
7,828	9,048
174	201
13,447	15,737
336	393

AUSTIN-WESTERN



3-WHEEL

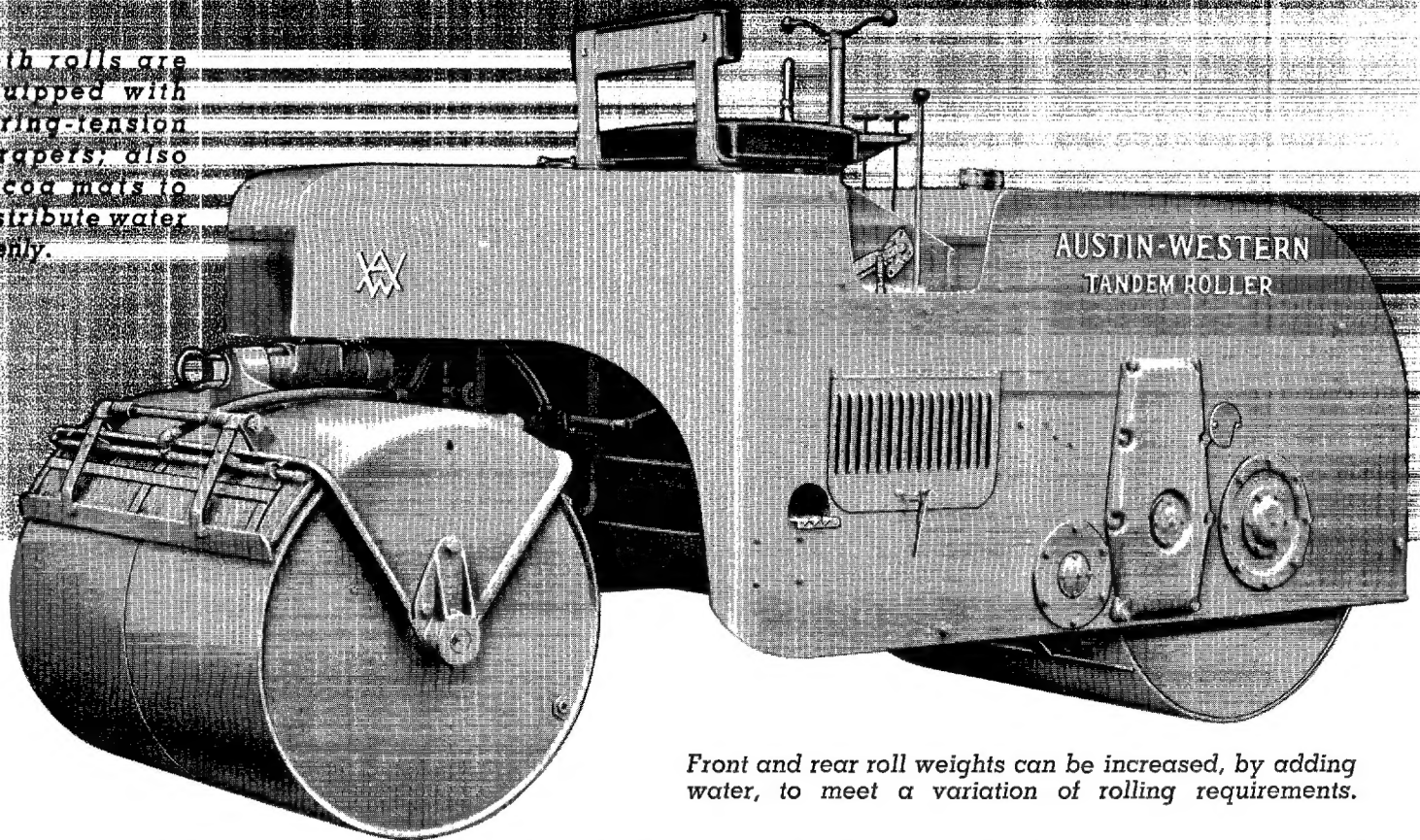
AUTOCRAT

ROAD ROLLERS

TANDEM

THE A-W TANDEM

Both rolls are equipped with spring-tension scrapers, also cocoa mats to distribute water evenly.



Front and rear roll weights can be increased, by adding water, to meet a variation of rolling requirements.

AUSTIN-WESTERN VARIABLE WEIGHT TANDEM ROLLERS Are Built in 5 to 8 and 8 to 10½-Ton Sizes

Among the operating advantages of these two Tandem Rollers are better visibility to work closer to curbs; more convenient controls, with reversing clutch lever; effortless hydraulic steer; a lower center of gravity to prevent sway; less frame over-hang for rolling closer to curbs; more ground clearance under side plates to clear higher curbs; more stability because

"box-shape construction resists twisting strains; balance of engine and final drive parts to provide uniform weight distribution across entire compression roll and

good accessibility for reaching or servicing moving parts, hydraulic pump, strainer, etc.

Mechanical features include: All welded, two-piece guide rolls and compression roll mounted on anti-friction bearings; front fork with horizontal king pin mounted on widely-spaced bearings; large diameter, vertical king-post mounted in tapered roller bearings for maximum stability and smooth steerability; gasoline or diesel power; two-speed forward and two-speed reverse transmission with heat-treated, alloy steel gears and shafts and anti-friction bearings throughout; a master clutch between engine and transmission, controlled by foot pedal; a parking brake and two, double-disc reversing clutches. Head and tail lights can also be furnished.

Leads with

VARIABLE WEIGHT

RIGID BOX FRAME

SMOOTH POWER

HYDRAULIC STEER

MORE VISIBILITY

LESS OVERHANG

MORE CLEARANCE

CONVENIENT SINGLE

or DUAL CONTROLS

A-W TANDEN LEADS IN CONSTRUCTION FEATURES



★ **FROM** the ground up, including the design of every detail and part, the Austin-Western built Tandem also "leads" by using the newest and best of materials and by following a standard of manufacturing which fully meets user requirements.

MAIN FRAME

To keep heavy rolls, engine, transmission and other parts in true alignment, for precision rolling, the welded main frame of heavy box-type construction is built in one solid piece and is stoutly reinforced to provide secure anchorage for all members. Welded, large capacity sprinkler tank, forming a part of the frame, and forward supporting plates, also welded in place, provide additional rigidity with high resistance to flexing when traveling over uneven ground. Openings for adequate ventilation and convenient servicing, including those for bearing housings, are accurately located; all bolt holes are jig-drilled for precision fit.

GASOLINE OR DIESEL POWER

The very nature of the work handled by a roller requires a smooth flow of steady power, which is furnished by thoroughly modern, well-known engines. The gasoline power plant is a 6-cylinder, high compression motor developing 47½ H.P. at 1500 RPM and is equipped with vibration dampener. The diesel unit is a 6-cylinder, high speed, full diesel engine developing 44½ H.P. at 1500 RPM. It operates at low maximum pressures which results in a smooth running and exceptionally quiet engine.

Both are equipped with electric starter, full pressure lubrication and centrifugal pump circulated cooling system. To secure perfect balance, motor and transmission are mounted slightly off center to counteract weight of final drive.

TRANSMISSION and CLUTCHES

The sliding gear-type transmission, providing two speeds forward and two reverse, is of special design and unusual ruggedness. All gears are oversize, are made of alloy steel, are machine-cut and heat-treated

and operate in a bath of oil. The shafts are of alloy steel, are splined and are mounted on anti-friction bearings. Heavy case, housing master clutch and main reduction gears, is sealed against the entry of dirt and the loss of oil. Located outside the transmission for quick access and easy servicing are two multiple-disc, toggle-type reversing clutches. Both are actuated by a single lever, which when shifted engages one clutch and disengages the other. Returning lever to neutral position disengages both clutches. In reversing direction of travel, opposite clutch acts as a brake before reversing movement takes place. No gears need be shifted to reverse movement of roller.

FINAL DRIVE

The final drive transmits power from the transmission to the compression roll by means of a telescopic, tubular propeller shaft having universal joint connections and thence through a train of pinions and gears. Shafts and gears are heat-treated alloy steel; all gears are of heavy design and machine-cut and all teeth are heat-treated. Bearings are high pressure lubricated. Jackshaft, countershaft and compression roll stub axles are mounted on ball bearings which are carried in large cast iron housings. Housings and the frame side plates into which they fit are accurately machined to insure perfect alignment of all shafts. Final drive gears are protected from dirt by adequate shrouds.

COMPRESSION ROLL

This roll is very carefully machined for smooth and true rolling. It is built of extra heavy steel plate, is made hollow for water ballast and inside it is stoutly reinforced by four horizontal tubes, rigidly welded at each end to both head plates. One head plate sets in so bull gear does not project beyond edge of roll; projecting edge is heavily reinforced. Bull gear ring and collars supporting stub axles are welded to head plates and are strengthened with welded webs to distribute the load over a wide area. Roll is absolutely water-tight and requires no water seals or packing glands.

STEERING and GUIDE ROLL ASSEMBLY

Though built for heavy service, these parts have been painstakingly engineered and machined for fine manipulation and precise rolling. The heavy, heat-treated, steel king post is mounted on two tapered roller bear-

—Continued on Page 4

AUSTIN-WESTERN TANDEM

LEADS THE FIELD



The first pass with an Austin-Western Tandem on a well mixed, carefully spread, black top job.



When completed, the surface was thoroughly compacted, smooth and true to grade and cross section.



Presenting another smooth riding surface free from humps, hollows and irregularities.

STEERING and GUIDE ROLL ASSEMBLY

—Continued

ings within a strong housing that is accurately positioned in the machined holes of two sturdy frame cross plates to eliminate bending strain in the housing. Upper part of king post is splined to accommodate the steering arm connection to a powerful hydraulic ram. Lower part is machined to hold the heavy steel pivot pin which is mounted on two wide-spaced bearings whose strong housings are welded to the one-piece, guide roll fork. Bolted to this rugged steel fork are two removable axle housings which support a non-rotating axle. Axle is precision ground to take four tapered roller bearings on which the two rolls turn. Axle and bearings are protected by a heavy steel water-tight tube passing through the center of each roll. Rolls are made hollow for water ballast and are machined in pairs for true alignment and concentricity; outer edges are beveled slightly to avoid wheel marks.

PARKING BRAKE

Parking brake (external contracting type) with brake drum fastened to spur pinion on the final drive jack shaft, is operated by a hand lever fitted with ratchet-type locking device.

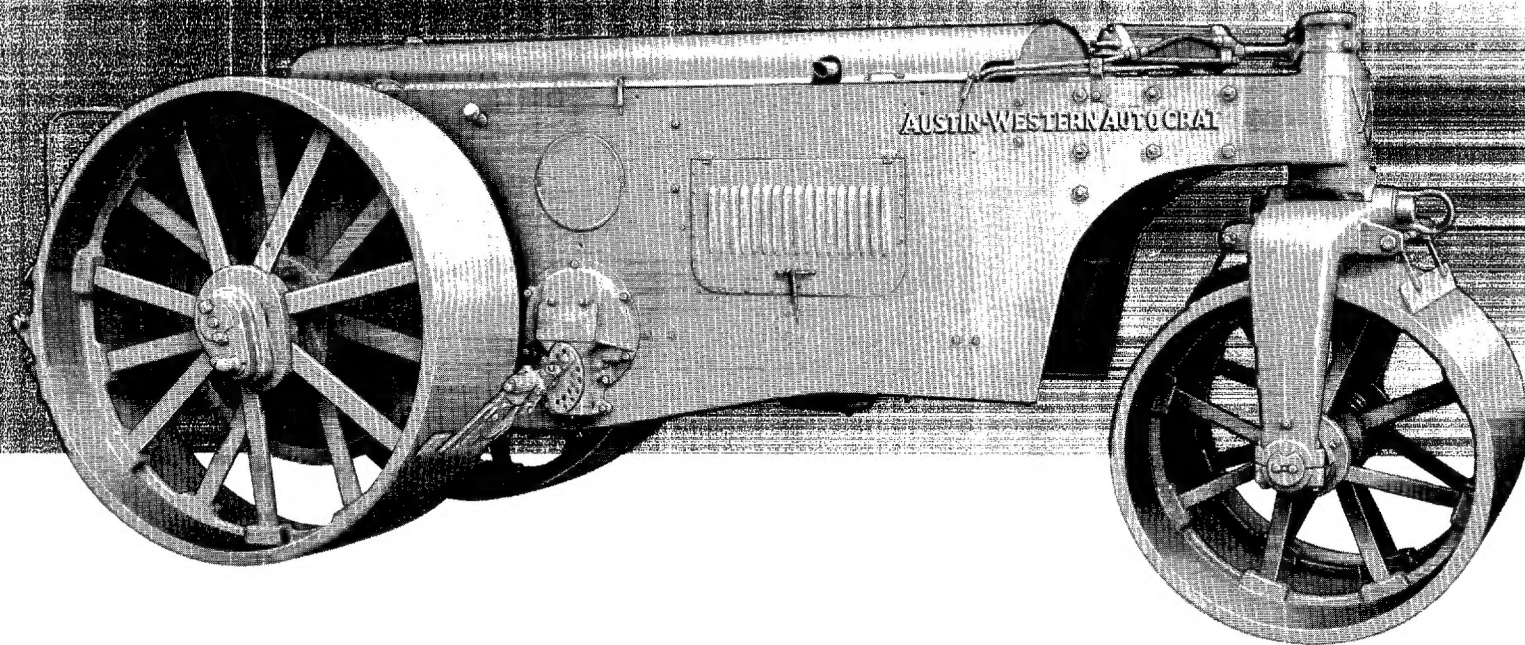
CONTROLS

All controls are grouped within easy reach of the operator. Steering lever, reversing clutch lever, master clutch pedal, gear shift lever and brake hand lever are all designed for maximum efficiency and operating ease. Dual controls are available so that the operator may work on either side of the street. . . . Comfortable seats are provided.

BRIEF SPECIFICATIONS

Overall length.....	14'-6"
Wheelbase.....	10'-0"
Rolling width.....	50"
Guide Roll—	
Diameter.....	40"
Total width.....	50"
Ballast capacity.....	231 gal. (1925 lbs.)
Lineal inch compression.....	93 to 134 lbs.
Compression Roll—	
Diameter.....	52"
Width.....	50"
Ballast capacity.....	375 gal. (3125 lbs.) (5 to 8-ton)
300 gal. (2500 lbs.) (8 to 10½-ton)	
Lineal inch compression.....	145 to 227 lbs. (5 to 8-ton)
242 to 312 lbs. (8 to 10½-ton)	
Speeds (M.P.H. forward and reverse)—	
Low gear.....	1.00 to 2.26
High gear.....	2.26 to 4.63

THE A-W AUTO CRAT



10 TON » 12 TON

★ Ever since it was introduced, the Autocrat Roller has been known for its general reliability and sturdiness. In the current models, these qualities are still retained; and, with added refinements, they have become even more dependable, easier to operate and cheaper to maintain. . . . Better balance is one important feature of these newer machines, correct traveling speeds is another, less vibration is a third, and so on, all of

which are aimed to lengthen life, lower cost and give the operator an unfailing tool—that does

exactly what he wants, simply and easily. . . . Each unit is powered with a thoroughly modern engine that moves the massive parts with ease and precision. Splined shafts and gears, of heat-treated alloy steel, are machined to exceedingly close limits. Supporting members, such as ONE-PIECE side plates, forks, axles and rolls are built extra sturdy. The controls are simple and more convenient to manipulate. Practically every gear, shaft or bearing including clutch parts can be adjusted or removed through adequate openings, without disturbing other parts of the machine. These facts, including features described on the following page, should be kept in mind in choosing your next roller.

Leads with



BETTER BALANCE

LESS VIBRATION

HYDRAULIC STEER

RUGGED CONSTRUCTION

SMOOTH CONTROL

LOW MAINTENANCE

DEPENDABLE POWER

GREATER VISIBILITY

ATTRACTIVE DESIGN

The A-W AUTOCRAT LEADS IN CONSTRUCTION FEATURES



★ **AUTOCRATS** have been used on countless highway and street paving projects all over the world. They are economical with fuel and oil and are free from annoying, time-consuming adjustments. They have abundant power for the hardest scarifying; a low center of gravity for safety and to avoid SWAY and BOUNCE, all members are anchored solidly—no springs are used. A high standard of accuracy is maintained in building these heavy, smooth-running units to assure long-period, dependable operation with minimum upkeep.

MAIN FRAME

To firmly support all parts and keep them in true alignment, Austin-Western uses full length side plates of heavy $\frac{1}{2}$ -inch steel. These are rigidly crossbraced with a 1200 lb. cast saddle at the forward end and a vertical steel plate dash and heavy operator's platform at the rear. In between, additional cross ties include mechanism supports, plates and rods and all are either riveted or bolted in place. Large covered openings in side plates and removable metal hoods provide ready accessibility for servicing. Saddle casting has machined sides and bolt holes are reamed to close tolerances. Platform floor plate is hinged to give access to tool and battery compartments.

GASOLINE OR DIESEL POWER

Smooth running, accurately balanced and thoroughly modern industrial type engines are used in the Autocrat. The gasoline power plant is a six-cylinder high compression motor developing 66.5 H.P. at 1250 R.P.M. governed speed. The diesel unit develops 52 H.P. at a governed speed of 1250 R.P.M. It starts on gasoline fuel and then switches over to full diesel operation. All engines have centrifugal pump circulated cooling system, full pressure lubrication to crankshaft, connecting rod and camshaft bearings, etc., including necessary oil filters and electric starting equipment.

TRANSMISSION AND CLUTCHES

The sliding gear-type transmission, providing three speeds forward and three reverse, is of special design

and unusual ruggedness. All gears are oversize, are made of alloy steel, are machine-cut and heat-treated and operate in a bath of oil. The shafts of alloy steel are heat-treated, hardened and ground, have splined connections and anti-friction bearings. Heavy case, housing master clutch and main reduction gears and four-pinion-type differential, is sealed against the entry of dirt and the loss of oil. Located outside the transmission for quick access and easy servicing are two toggle action, over-center-type reversing clutches. Both are actuated by a single lever, at operator's station, which when shifted engages one clutch and disengages the other. Returning lever to neutral position disengages both clutches. In reversing direction of travel, opposite clutch acts as a brake before reversing movement takes place. No gears need be shifted to reverse movement of roller.

FINAL DRIVE

The final drive transmits the power from the differential jackshafts to the compression rolls. There are two sets of final drive gears as the power is transmitted directly to each compression roll.

The drive pinions are splined to the outer ends of the jackshafts, and are located outside the frame side plates, one on each side of the roller frame. The ring gears are bolted directly to the compression rolls.

The pinions are drop forged from special alloy steel and the ring gears are fabricated from high carbon steel.

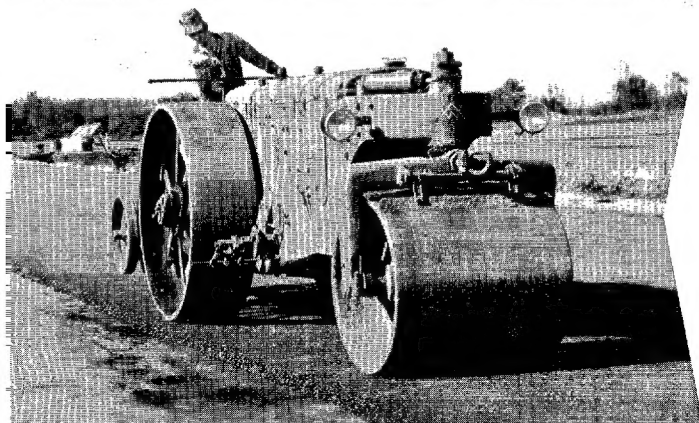
The pinions and gears are covered with a sheet metal hood to protect them from dust and mud.

COMPRESSION ROLLS and AXLE

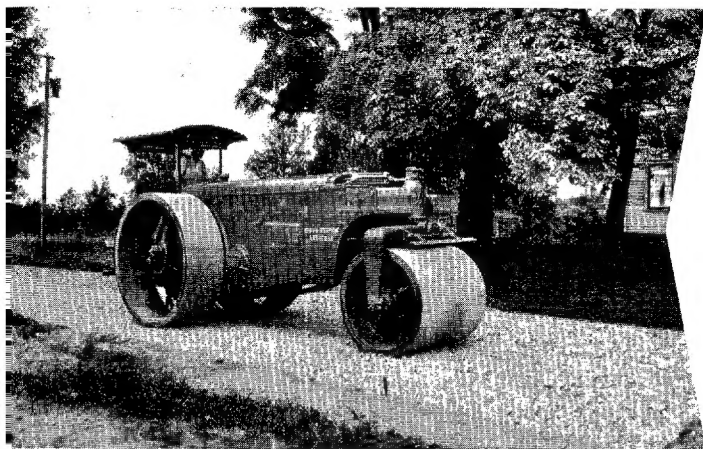
In making the Autocrat compression rolls, Austin-Western uses special analysis, close-grained iron for the rims and hubs which are cast around wrought iron spokes having enlarged ends; this essentially makes a one-piece roll. Rim hardness, controlled by Brinell tests, is held to close limits to secure the greatest wear without undue brittleness. Rolls are cambered with the slightly smaller diameter at the inner edge and are carefully bored for concentricity with the working face. They measure 68 inches in diameter (12 ton, $68\frac{1}{2}$ ") and are regularly furnished with 20-inch faces; 22 and 24-inch faces are available for special work. The rolls are secured to the axle by outside drive arms and drive pins which can be engaged to lock one or both rolls. Ordinarily the drive pin of one roll is disengaged to permit full differential action. Rear axle is an open hearth steel forging, heat-treated and accurately machined. Ample provisions are made for lubrication; and sight feed oilers, mounted on the dash, are directly connected to bearings.

A-W AUTOCRAT IS A

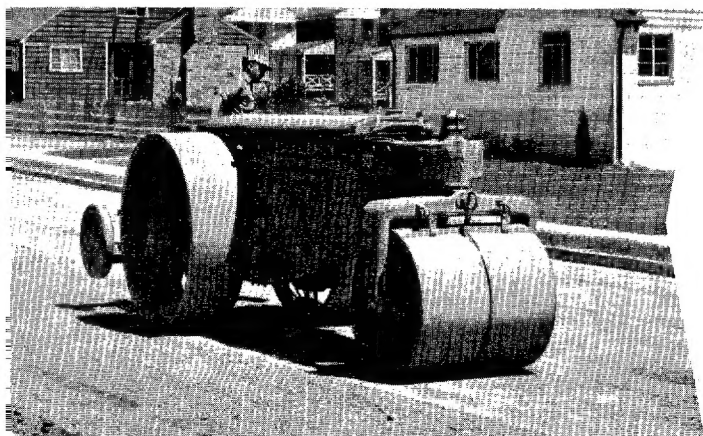
LEADER



10-Ton Autocrat rolling plant-mixed asphalt for airport runway.



An Austin-Western Autocrat laying a road surface of crushed stone.



Compacting the base course of a street in a newly developed sub-division.

SCRAPERS

Both compression and guide rolls are equipped with scrapers under spring tension to keep roll surfaces clean. Scrapers may be swung clear of roll when desired.

STEERING and FRONT ROLL ASSEMBLY

These parts are very substantial to bear the heavy front-end weight and are machined accurately for smooth steering and maneuverability. King post of high grade alloy steel rotates in large bronze bearings. Its upper end is keyed and clamped to a steering arm which in turn connects to a powerful, positive and smooth acting hydraulic ram. Lower end of king post is welded to pivot pin housing after which it is machined true. Pivot pin, of very fine alloy steel, swivels freely in the king post but is held stationary in the fork; a towing clevis attaches to the forward end. Supports for pivot pin are cast integral with the fork which is made so rigid and heavy that no operating stress will ever distort it. Guide rolls are individually mounted on a non-rotating alloy steel axle with four tapered roller bearings. Rims, hubs and spokes are of same materials and general construction as compression rolls. Outer edges of rolls are slightly rounded. Bearings are pressure lubricated and seals prevent loss of lubricant and entry of dirt.

BRAKES

For easy accessibility, brake is located outside transmission case on the splined end of the first and second speed countershaft. Since braking action is applied through the transmission and final drive gears, it is possible to use a relatively small brake. For parking, a hand lever ratchet-type brake is used.

CONTROLS and OPERATOR'S STATION

All controls, for engine or general operation, are located on the dash or within operator's platform and are within convenient reach for instant use. Operator's platform is a roomy compartment with diamond plate floor and steel safety guard rail at rear. Main frame side plates are extended to serve as "kick plates" or fenders. A door in the floor provides access to tool and battery compartments. Door may be locked to prevent tampering by unauthorized persons.

BRIEF SPECIFICATIONS

DIMENSIONS—

	10-Ton	12-Ton
Total length, without scarifier.....	18'-1 $\frac{3}{8}$ "	18'-1 $\frac{3}{8}$ "
Wheel base.....	11'-6 $\frac{1}{16}$ "	11'-6 $\frac{1}{16}$ "
Rolling width (20" compression rolls).....	6'-4"	6'-4"
(22" compression rolls).....	6'-8"	6'-8"
(24" compression rolls).....	7'-0"	7'-0"
Diameter of rear rolls.....	68"	68 $\frac{1}{2}$ "
Face of rear rolls—Standard.....	20"	20"
—Special.....	22" or 24"	22" or 24"
Diameter of front rolls.....	43"	43"
Combined width of front rolls.....	45"	45"
Overlap front and rear rolls (each side).....	4 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "
with 20" wheels		

SPEEDS (M.P.H. forward and reverse)—

	1.1	1.1
First.....	3.0	3.0
Second.....	4.9	4.9
Third.....		

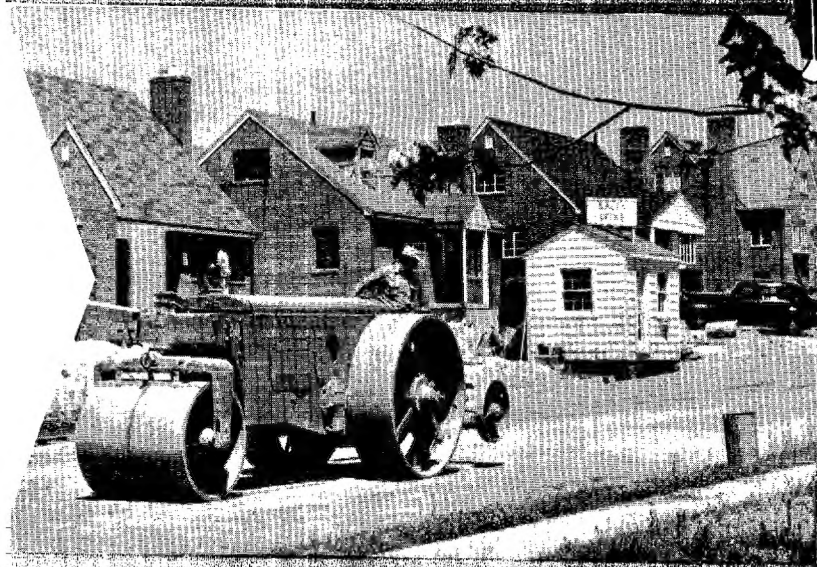
WHEREVER

**YOU FIND THEM
A-W ROLLERS**

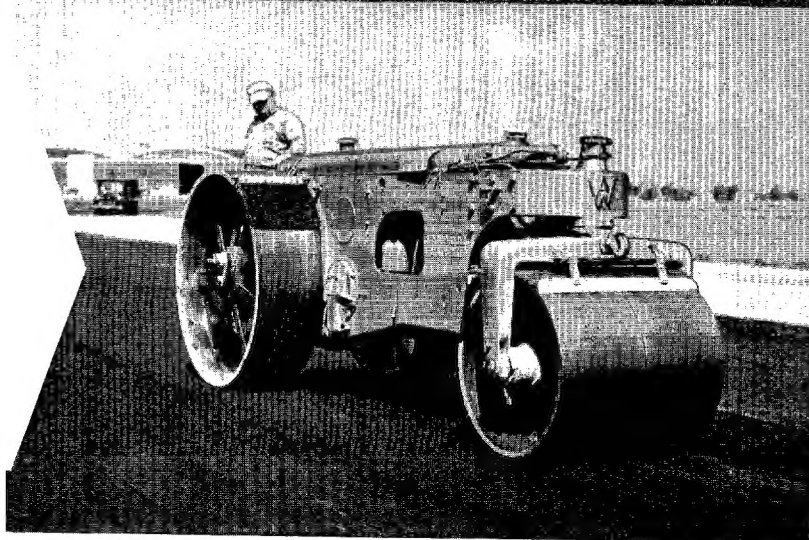


LEAD THE FIELD

The Autocrat at work on a street in a new residential area.



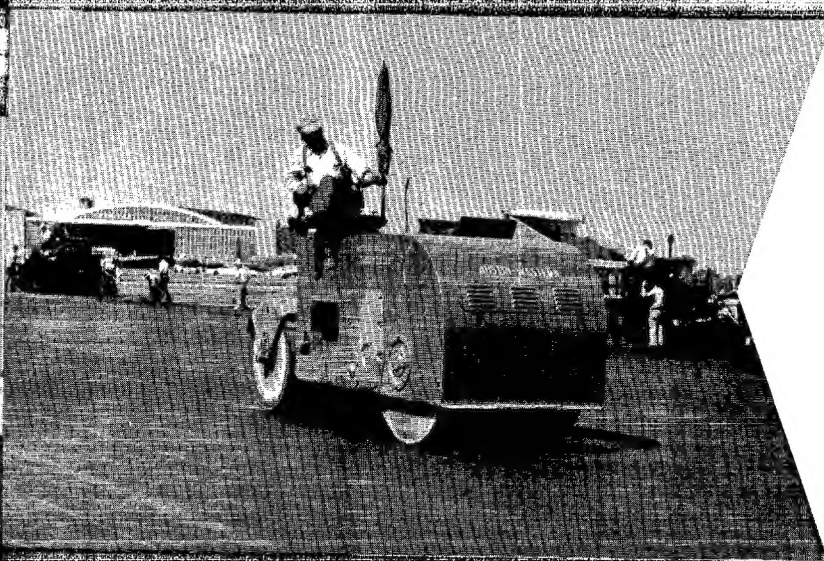
Building airport runways with the 10-ton Autocrat Roller.



Compacting a road-mixed surface with the Austin-Western Tandem.



Finishing airport runways with an Austin-Western Tandem Roller.



AUSTIN-WESTERN COMPANY

Subsidiary of BALDWIN-LIMA-HAMILTON CORPORATION

AURORA, ILLINOIS

ROUTING AND CONTROL RECORD		
DO NOT DETACH FROM 'ON LOAN' DOCUMENTS		
2 May 1955 DATE		R-23853
TO: Graphics Register		
ATTN: [REDACTED]		25X1A9a
BUILDING	ROOM NO.	
TITLE		
2 descriptive brochures "Austin-Western Road Rollers"		
Case 18004 A 41108		
REMARKS		
Attached brochures are forwarded for retention with the thought that they may help on subject case. Returned herewith is the photograph of a Soviet ten-ton motor road roller. (SECRET) Unable to provide a picture of anything resembling it.		
<input checked="" type="checkbox"/> RETAIN	<input type="checkbox"/> ON LOAN	
DOCUMENT(S) FOR RETENSION BY ADDRESSEE	DOCUMENT(S) MUST BE RETURNED TO CONTACT DIVISION/00 BY (DEADLINE)	
	25X1A9a	
FROM: CONTACT DIVISION/00		BRANCH GMP STAFF [REDACTED]
BUILDING Quarters Eye	ROOM NO. 1808	EXTENSION 2576